Bruhat Bangalore Mahanagara Palike
Executive Engineer Yelahanka Division

Name of Work: Improvements to roads and drains in Chikka Bommasandra main and cross roads in ward no. 04

	Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
	Civil Work								
	KSRRB 300-1. **Earthwork excavation by manual means** for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specifications(I No-19.1, P No-143), 8km lead								
	Basic rate	130.00							
	Area Weightage 6%	7.80							
	Loading and Unloding & Lead, 8KM	77.48							
	Total	**215.28**							
		Cum							
	RCC Drain								
	Chikkabommasandra								
	1st Main rd		1	193.00	1.50	1.10	318.45		
	Cross rd In front of Govt School		1	43.00	1.10	1.00	47.30		
	1st A cross		2	74.00	1.00	0.90	133.20		
				Area					
	Rain Water Harvesting pits		5	0.31		1.80	2.79		
	Culvert		7	6.00	1.50	1.00	63.00		
							564.74	**215.28**	**121577.23**
2	Filling in foundation with granite/trap broken metal 100mm and down size, with approved sand including hand packing, ramming, watering, including cost of all materials and labour with lead up to 50m and lift 1.5m complete as per specifications. Data Rate								
	Data rate	1901.00		Area					
	a) 40mm Jelly	Cum	5	0.31		0.40	**0.62**	**1901**	**1,178.62**
	Data rate	1901.00							
	b) 20mm Jelly	Cum	5	0.31		0.40	**0.62**	**1901**	**1,178.62**
	Data rate	2651.00							
	c) Coarse sand.	Cum	5	0.31		0.30	**0.47**	**2651**	**1,232.72**
	Data rate	2651.00							
	d) Fine Sand	Cum	5	0.31		0.20	**0.31**	**2651**	**821.81**
	Data rate	1901.00							
	e) 12.5mm chips	Cum	5	0.31		0.30	**0.47**	**1901**	**883.97**

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
Supplying, laying and jointing HDPE pipes of specified grade and conforming to IS 4984- 995 with latest amendments and conveyingto work site including loading and unloading at both destinations and rolling and lowering into trenches, laying true to line and jointing of pipes and specials, giving hydraulic test as per relevant ISS with all lead and lifts including encasing the pipe alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excavation, testing and commissioning. The rate is exclusive of required specials and fittings wherever necessary like saddle Tee, stub ends, flanged sets, bends, reducers etc. complete (Contractor will make his own arrangements for procuring water for testing) etc. for : **HDPE Grade PE80-PN6.0, 630 mm dia.** (Perforated Pipe for Rain Water Harvesting Pit) (BWSSB SR 2017-18, Pg No 121 Item No. 1.17 Code No. K010Q)								
Basic rate	12121.00							
Deduct 12% GST	1298.68							
Total	10822.32							
	Rmt							
0.63m dia HDPE Perforated		5	1.80			9.00		
						9.00	10822.32	97,400.88
Providing of Geonets for Rain Water Harvesting pit on top of the filter media as specified indrawings or as approved by Engineer Incharge. Data Rate								
Data rate	71.03		Area					
	Sqm	5	0.31			1.55	71.03	110.10
KSRRB M2100-10. Providing and laying **Plain cement concrete of mix 1:3:6** with OPC @ 220kgs, with crushed 40mm and down size graded granite metal coarse aggregates @0.89cum and fine aggregates @ 0.46cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM curing, form works, scaffolding and centering complete as per specifications. (P.No-222,I No-27.18)								
Basic rate	5115.00							
Area Weightage 6%	306.90							
Total	5421.90							
	Cum							
RCC Drain								
Chikkabommasandra								
1st Main rd		1	193.00	1.50	0.15	43.43		
Cross rd In front of Govt School		1	43.00	1.10	0.15	7.10		
1st A cross		2	74.00	1.00	0.15	22.20		
For Kerb Stone								
Chikkabommasandra								
1st Main rd		1	193.00	0.20	0.10	3.86		
C.C Road								
Chikkabommasandra								
4th B Cross		1	60.00	3.40	0.15	30.60		
Cross road A		1	60.00	3.80	0.15	34.20		
Cross road B		1	62.00	3.70	0.15	34.41		
Culvert		7	6.00	1.50	0.15	9.45		
						185.24	5421.90	1004352.76

I D	Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
	Providing and laying plain/reinforced cement concrete for side drains using **M20 nominal mix concrete with OPC at 300 kgs.** With 20mm and sown size granite metal course aggregates at 0.69 cum and fine aggregates at 0.43 cum machine mixed, well compcted for walls and bottom including centring shuttering cost of material HOM of machinary curing etc., complete execluding cost of steel as per MORTH specification no. 1500, 1700, 2200 including cost of material labour HOM complete as per specification. (P.No.271, I.No.37.59.2 of PW, P&IWTD S.R 2018-19)								
	Basic rate	6670.00							
	Area Weightage 6%	400.20							
	Total	**7070.20**							
		Cum							
	RCC Drain								
	Raft								
	Chikkabommasandra								
	1st Main rd		1	193.00	1.35	0.20	52.11		
	Cross rd In front of Govt School		1	43.00	0.90	0.15	5.81		
	1st A cross		2	74.00	0.80	0.15	17.76		
	Wall								
	Chikkabommasandra								
	1st Main rd		2	193.00	0.23	0.90	79.90		
	Cross rd In front of Govt School		2	43.00	0.15	0.60	7.74		
	1st A cross		4	74.00	0.15	0.60	26.64		
							189.96		
	Culvert Raft		7	6.00	1.20	0.20	10.08		
	Culvert Wall		14	6.00	0.23	0.60	11.59		
							21.67		
							211.63	**7070.20**	**1496259.36**
	KSRRB - M2300-14: **Providing TMT steel reinforcement** for R.C.C work including straightening, cutting, bending, hooking, palcing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining memebrs wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications.MORTH Specification No. 1600 & 2200 for TMT bars Fe 500. (P.No.239, I.No.29.29.2 of PW, P&IWTD S.R 2018-19)								
	Basic rate	69804.00							
	Area Weightage 6%	4188.24							
	Total	**73992.24**							
		Tn							
	RCC Drain								
	For Drain 75kg/cum			189.96	0.075		14.25		
	For Culvert 90kg/cum			21.67	0.09		1.95		
							16.20	**73992.24**	**1198471.18**
8	Providing and Fixing **pre cast covering Slab 100mm thick** made out of CC 1:2:4 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)								
	Data rate	2337.00							
		Sqm							
	RCC Drain								

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
Chikkabommasandra								
Cross rd In front of Govt School		1	43.00	0.90		38.70		
1st A cross		2	74.00	0.75		111.00		
						149.70	**2337.00**	**349848.90**
Providing and Fixing **pre cast covering Slab 150mm thick** made out of CC 1:2:4 and jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge. (Data Rate)								
Data rate	2493.00							
	Sqm							
RCC Drain								
Chikkabommasandra								
1st Main rd		1	193.00	1.20		231.60		
						231.60	**2493.00**	**577378.80**
Providing and fixing **RCC precast cover slab of 250mm thick** for drain in cement concrete 1:1.5:3 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
Data rate	5418.00							
	Sqm							
Culvert		7	6.00	1.20		50.40		
						50.40	**5418.00**	**273067.20**
Providing and fixing **pre cast solid cement concrete kerb stones** made out of CC 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete. As per the direction of Engineer incharge. (P.No.27, I.No.5.30 of PW, P&IWTD SR 2018-19)								
Basic Rate Rs.=	408.00							
Add 6% A.W Rs. =	24.48							
Total Rate Rs. =	**432.48**							
	Nos							
Chikkabommasandra								
1st Main rd		1	193.00			193.00		
						193.00		
						429.00	**432.48**	**185533.92**
Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8 Specification No. KSRRB M800-6. (P.No.180, I.No.24.1 of PW, P&IWTD SR 2018-19)								
Basic Rate Rs.=	80.00							
Add 6% A.W Rs. =	4.80							
Total Rate Rs. =	**84.80**							
	Sqm							
For Kerb Stone								
Chikkabommasandra								
1st Main rd		1	193.00		0.40	77.20		
						77.20	**84.80**	**6,546.56**

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
SRRB M300-14. **Excavation for roadwork in all types of soil** by mechanical means including cutting nd loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, rades and cross sections, and transportation with a lead of 1.00 km and complete as per pecifications MORTH Specificatio MORTH Specification No.301Loading and unloading with 8km ead= (I No-19.14,P No-143,KPWD SR 2018-19)								
Basic rate	41.00							
Area Weightage 6%	2.46							
8km Lead	20.48							
Total	**63.94**							
	Cum							
Overlay cut portion								
Chikkabommasandra								
1st A Cross		2	74.00	0.90	0.20	26.64		
1st B Cross		2	124.00	0.90	0.20	44.64		
1 Cross		2	54.00	0.90	0.20	19.44		
2nd Cross		2	78.00	0.90	0.20	28.08		
2nd B cross		2	123.00	0.90	0.20	44.28		
3rd B cross		2	107.00	0.90	0.20	38.52		
Conecting Road		2	180.00	0.90	0.20	64.80		
						266.40	**63.94**	**17,033.62**
Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications Clause 401 of MORTH V Revision.(I No-20.5,P No-153)								
Basic rate	1882.00							
Area Weightage 6%	112.92							
Total	**1994.92**							
	Cum							
Overlay cut portion								
Chikkabommasandra								
1st A Cross		2	74.00	0.90	0.15	19.98		
1st B Cross		2	124.00	0.90	0.15	33.48		
1 Cross		2	54.00	0.90	0.15	14.58		
2nd Cross		2	78.00	0.90	0.15	21.06		
2nd B cross		2	123.00	0.90	0.15	33.21		
3rd B cross		2	107.00	0.90	0.15	28.89		
Conecting Road		2	180.00	0.90	0.15	48.60		
						199.80	**1994.92**	**398585.02**
KSRRB M400-17. Providing, laying, spreading and compacting cushed stone aggregates of granite / trap / basalt to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed materials by tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications(P.No-155,I No-20.18)								
Basic rate	1888.00							
Area Weightage 6%	113.28							
Total	**2001.28**							

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
erlay cut portion								
hikkabommasandra								
st A Cross		2	74.00	0.90	0.23	30.64		
st B Cross		2	124.00	0.90	0.23	51.34		
Cross		2	54.00	0.90	0.23	22.36		
nd Cross		2	78.00	0.90	0.23	32.29		
nd B cross		2	123.00	0.90	0.23	50.92		
rd B cross		2	107.00	0.90	0.23	44.30		
onecting Road		2	180.00	0.90	0.23	74.52		
						306.36	**2001.28**	**613112.14**

SRRB M500-6. Providing and **applying primer coat** with S.S. bitumen emulsion on prepared surface f granular base such as WMM including cleaning of road surface and spraying primer at the rate of .60 kg / sqm using mechanical means complete as per specifications Clause 502 of MORTH V evision(P.No-158,I No-21.6), issue rate dated 02-07-2020

Basic rate	28.00							
Area Weightage 6%	1.68							
Total	**29.68**							
	Sqm							
Overlay cut portion								
Chikkabommasandra								
1st A Cross		2	74.00	0.90		133.20		
1st B Cross		2	124.00	0.90		223.20		
1 Cross		2	54.00	0.90		97.20		
2nd Cross		2	78.00	0.90		140.40		
2nd B cross		2	123.00	0.90		221.40		
3rd B cross		2	107.00	0.90		192.60		
Conecting Road		2	180.00	0.90		324.00		
						1332.00	**29.68**	**39,533.76**

KSRRB 500-2. **Cleaning the existing black topped** surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatment including cost of all materials, labour, HOM complete as per specifications.(P.No-158,I No-21.2), issue rate dated 01-07-2020

Basic rate	5.00							
Area Weightage 6%	0.30							
Total	**5.30**							
	Sqm							
TC- PC area								
						1844.00		
						1844.00	**5.30**	**9,773.20**

KSRRB 500-7. Providing and applying **tack coat** using 80/100 grade bitumen(VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM complete as per specifications (P.No-161,I No-21.7) issue rate dated 02-07-2020

Basic rate	12.00							
Area Weightage 6%	0.72							
Total	**12.72**							
	Sqm							
Overlay cut portion								
Chikkabommasandra								

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
A Cross		1	74.00	3.90		288.60		
st B Cross		1	124.00	4.50		558.00		
Cross		1	54.00	5.60		302.40		
nd Cross		1	78.00	4.00		312.00		
nd B cross		1	123.00	4.40		541.20		
rd B cross		1	107.00	3.40		363.80		
onecting Road		1	180.00	4.50		810.00		
						3176.00	**12.72**	**40,398.72**
KSRRB M500-17. Providing and laying **dense graded bituminous macadam** using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications Clause 505 of MORTH V revisionusing 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No-160,I No-21.17.6), issue rate dated 02-07-2020								
Basic rate	6045.00							
Area Weightage 6%	362.70							
Total	**6407.70**							
	Cum							
Overlay cut portion								
Chikkabommasandra								
1st A Cross		2	74.00	0.90	0.05	6.66		
1st B Cross		2	124.00	0.90	0.05	11.16		
1 Cross		2	54.00	0.90	0.05	4.86		
2nd Cross		2	78.00	0.90	0.05	7.02		
2nd B cross		2	123.00	0.90	0.05	11.07		
3rd B cross		2	107.00	0.90	0.05	9.63		
Conecting Road		2	180.00	0.90	0.05	16.20		
Profile correction, 20%		0.20	1844.00		0.05	18.44		
						85.04	**6407.70**	**544910.81**
Providing and laying **bituminous concrete 40mm thick** with hot mix plant, using crushed aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction in all respects complete as per specifications. Clause 507 of MORTH V revision as per IRC SP-53-2015. using 40-60 TPH capacity HMP with mechanical paver grading II (30-45mm) with 5.4 % of modified bituminus binder consisting of 4.97% of VG-30 bitumen (60/70 grade) and 0.43% of plastomeric thermoplastics (waste plastic)(P.No-171,I No-21.78.12), issue rate dated 02-07-2020								
Basic rate	7111.00							
Area Weightage 6%	426.66							
Total	**7537.66**							
	Cum							
Overlay cut portion								
Chikkabommasandra								
1st A Cross		1	74.00	3.90	0.04	11.54		

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
1 B Cross		1	124.00	4.50	0.04	22.32		
1 Cross		1	54.00	5.60	0.04	12.10		
2nd Cross		1	78.00	4.00	0.04	12.48		
2nd B cross		1	123.00	4.40	0.04	21.65		
3rd B cross		1	107.00	3.40	0.04	14.55		
Conecting Road		1	180.00	4.50	0.04	32.40		
						127.04	**7537.66**	**957584.33**

KSRRB M800-13.**Road Marking** with Hot Applied Thermoplastic Compound with Reflectrising Glass Beads on Bituminous Surface/ Concrete Surface: Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35 standards specified. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803(P.No-182,I No-24.15)

Basic rate	429.00							
Area Weightage 6%	25.74							
Total	**454.74**							
	Sqm							
Chikkabommasandra								
1st A Cross		2	74.00	0.10		14.80		
1st B Cross		2	124.00	0.10		24.80		
1 Cross		2	54.00	0.10		10.80		
2nd Cross		2	78.00	0.10		15.60		
2nd B cross		2	123.00	0.10		24.60		
3rd B cross		2	107.00	0.10		21.40		
Conecting Road		2	180.00	0.10		36.00		
						148.00	**454.74**	**67,301.52**

KSRRB M800-35. **Supply and Installtion of Moulded Shank Raised Pavement Markers** made of polycarbonate and ABS(Acrylonitrile Butadiene Styrene) moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 16000 kg tested in accordance to Specifications of Category A of MORTH Circular No RW/ NH/33023/10-97 – DO III Dt 11.06. 1997. The height, width and length shall not exceed 50 mm, 100 mm and 102 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 mm and height not less than 30 mm) from the body is to be a minimum value of 500 Kg. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and complete as directed by the engineer.(P.No-187,I No-24.41)

Basic rate	337.00							
Area Weightage 6%	20.22							
Total	**357.22**							
	Nos							
Chikkabommasandra								
1st A Cross		2	11.00			22.00		
1st B Cross		2	16.00			32.00		

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
1 Cross		2	9.00			18.00		
2nd Cross		2	11.00			22.00		
2nd B cross		2	15.00			30.00		
3rd B cross		2	13.00			26.00		
Conecting Road		2	23.00			46.00		
						196.00	357.22	70,015.12

KSRRB M200-24. **Dismantling of cement concrete pavement** by mechanical means using pneumatic tools, breaking to pieces not exceeding 0.02 cum in volume and stock piling at designated locations and disposal of dismantled materials stacking serviceable and unserviceable materials seperately complete as per specifications. Loading and unloading with 8km lead= (I No-18.47,P No-140,KPWD SR 2018-19)

Basic rate	899.00							
Area Weightage 6%	53.94							
8km Lead	20.48							
Total	973.42							
	Cum							
C.C Road								
Chikkabommasandra								
4th B Cross		1	60.00	3.40	0.25	51.00		
Cross road A		1	60.00	3.80	0.25	57.00		
Cross road B		1	62.00	3.70	0.25	57.35		
						165.35	973.42	160955.00

Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to IS:383-2016, with Superplastizer at 3 lts conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints,including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to(P.No-176,I No-22.6.1)

Basic rate	4916.00							
Area Weightage 6%	294.96							
Total	5210.96							
	Cum							
C.C Road								
Chikkabommasandra								
4th B Cross		1	60.00	3.40	0.15	30.60		
Cross road A		1	60.00	3.80	0.15	34.20		
Cross road B		1	62.00	3.70	0.15	34.41		
						99.21	5210.96	516979.34
							Total Construction Cost	8752025.18
							Towards GST 12%	1050243.02

Description of Items	Unit	No	Length	Width	Depth	Quantity	Rate	Amount
							PMC Charges 1%	97,500.00
							Sub Total	9899768.21
							Miscellaneous & Rounding Off	231.79
							Total	9900000.00

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, issue rates dated 02-07-2020 and Data Rates

Assistant Engineer
Ward 084
BBMP Bangalore

Asst. Executive Engineer
Yelahanka New Town Sub Division
BBMP Bangalore

Executive Engineer
Yelahanka Division
BBMP Bangalore

Administrative Sanction for Rs. 99.00 Lakhs .....
.....
.....
is accorded under head P-0190 .....
.....
.....
Registered as CE No. ..... Subject to conditions contained in enclosed memo No. EE\YNK\AS\25\2020-21 ... Dt. 8/8/2020

Executive Engineer

Technical Sanction
Accorded For R&B99:00lakhs
Head of A/C P0190
CER NO : 99 Dt: 28/8/2020

CE (NRS)

Ramanjeerah

CLIENT: BRUHAT BANGALORE MAHANAGARA PALIKE	CONSULTANT:- **Silicon Consulting Engineers** #S1317, 4th CROSS BEL 2nd STAGE BHARATH NAGAR BANGALORE 560 091. E-mail siliconcivilengineers@gmail.com	Assitante Engineer / Assitante Executive Engineer / Executive Engineer	Improvements To Roads and Drains at Chikka Bommasandra Main and Cross roads in Ward no-04	scale: N.T.S Date Dwg no: Rev: R0